

Appl. No. 10/708,047
Amdt. dated April 07, 2006
Reply to Office action of December 07, 2005

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A light-emitting device with compound substrate comprising:
a compound substrate comprising a high thermal conductive layer and a substrate
disposed around the high thermal conductive layer;
[[an]] a transparent adhesive layer formed on the compound substrate; and
a light-emitting stack layer formed on the transparent adhesive layer.
2. (Cancelled)
3. (Currently Amended) The light-emitting device of claim [[2]] 1 wherein the
transparent adhesive layer is a conductive transparent adhesive layer.
4. (Currently Amended) The light-emitting device of claim [[2]] 1 wherein the
transparent adhesive layer is an insulating transparent adhesive layer.
- 5-7. (Cancelled)
8. (Currently Amended) The light-emitting device of claim 1 further comprising a first
reaction layer between the compound substrate and the transparent adhesive layer.
9. (Currently Amended) The light-emitting device of claim 1 further comprising a
second reaction layer between the transparent adhesive layer and the light-emitting
stack layer.
10. (Original) The light-emitting device of claim 8 further comprising a metal
reflecting layer between the compound substrate and the first reaction layer.

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11. (Original) The light-emitting device of claim 9 further comprising a metal reflecting layer between the second reaction layer and the light-emitting stack layer.

12. (Original) The light-emitting device of claim 11 further comprising a transparent conductive layer between the metal reflecting layer and the light-emitting stack layer.

13-14. (Cancelled)

10 15. (Original) The light-emitting device of claim 1 further comprising a connection layer between the high thermal conductive layer and the substrate.

15 16. (Currently Amended) The light-emitting device of claim 1 wherein the high thermal conductive layer comprises at least one material selected from a material group consisting of Cu, Al, Au, Ag, W, and alloys of these metals, ~~or other substitute materials~~.

20 17. (Currently Amended) The light-emitting device of claim 15 wherein the connection layer comprises at least one material selected from a material group consisting of indium tin oxide, GeAu, BeAu, Au, SiNx, SiO₂, Cu, Ti, and Pd, ~~or other substitute materials~~.

18. (Cancelled)

25 19. (Currently Amended) The light-emitting device of claim [2] 1 wherein the transparent adhesive layer comprises at least one material selected from a material group consisting of polyimide (PI), benzocyclobutane (BCB), and perfluorocyclobutene (PFCB), ~~or other substitute materials~~.

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20. (Currently Amended) The light-emitting device of claim 3 wherein the conductive transparent adhesive layer comprises at least one material selected from a material group consisting of intrinsically conducting polymer and polymer doped with a conductive material, or other substitute materials.
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21. (Currently Amended) The light-emitting device of claim 20 wherein the conductive material comprises at least one material selected from a material group consisting of indium tin oxide, cadmium tin oxide, antimony tin oxide, zinc oxide, zinc tin oxide, Au, and Ni/Au, or other substitute materials.
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- 22-24. (Cancelled)
25. (Currently Amended) The light-emitting device of claim 8 wherein the first reaction layer comprises at least one material selected from a material group consisting of SiNx, Ti, and Cr, or other substitute materials.
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26. (Currently Amended) The light-emitting device of claim 9 wherein the second reaction layer comprises at least one material selected from a material group consisting of SiNx, Ti, and Cr, or other substitute materials.
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27. (New) A light-emitting device with compound substrate comprising:
a compound substrate comprising a high thermal conductive layer and a substrate disposed around the high thermal conductive layer;
25 an opaque adhesive layer formed on the compound substrate; and
a light-emitting stack layer formed on the opaque adhesive layer.
28. (New) The light-emitting device of claim 27 wherein the opaque adhesive layer is a

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conductive opaque adhesive layer.

29. (New) The light-emitting device of claim 27 wherein the opaque adhesive layer is an insulating opaque adhesive layer.

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30. (New) The light-emitting device of claim 27 further comprising a first reaction layer between the compound substrate and the opaque adhesive layer.

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31. (New) The light-emitting device of claim 30 further comprising a second reaction layer between the opaque adhesive layer and the light-emitting stack layer.

32. (New) The light-emitting device of claim 31 further comprising a metal reflecting layer between the second reaction layer and the light-emitting stack layer.

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33. (New) The light-emitting device of claim 32 further comprising a transparent conductive layer between the metal reflecting layer and the light-emitting stack layer.

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34. (New) The light-emitting device of claim 27 further comprising a connection layer between the high thermal conductive layer and the substrate.

35. (New) The light-emitting device of claim 27 wherein the high thermal conductive layer comprises at least one material selected from a material group consisting of Cu, Al, Au, Ag, W, and alloys of these metals.

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36. (New) The light-emitting device of claim 34 wherein the connection layer comprises at least one material selected from a material group consisting of indium tin oxide, GeAu, BeAu, Au, SiNx, SiO₂, Cu, Ti, and Pd.

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37. (New) The light-emitting device of claim 30 wherein the first reaction layer comprises at least one material selected from a material group consisting of SiNx, Ti, and Cr.

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38. (New) The light-emitting device of claim 31 wherein the second reaction layer comprises at least one material selected from a material group consisting of SiNx, Ti, and Cr.

10 39. (New) A light-emitting device with compound substrate comprising:
a compound substrate comprising a high thermal conductive layer and a substrate
disposed around the high thermal conductive layer;
a metal adhesive layer formed on the compound substrate; and
a light-emitting stack layer formed on the metal adhesive layer.

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40. (New) The light-emitting device of claim 39 further comprising a metal reflecting layer between the metal adhesive layer and the light-emitting stack layer.

20 41. (New) The light-emitting device of claim 40 further comprising a transparent conductive layer between the metal reflecting layer and the light-emitting stack layer.

42. (New) The light-emitting device of claim 39 further comprising a connection layer between the high thermal conductive layer and the substrate.

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43. (New) The light-emitting device of claim 39 wherein the high thermal conductive layer comprises at least one material selected from a material group consisting of Cu, Al, Au, Ag, W, and alloys of these metals.

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44. (New) The light-emitting device of claim 42 wherein the connection layer comprises at least one material selected from a material group consisting of indium tin oxide, GeAu, BeAu, Au, SiNx, SiO₂, Cu, Ti, and Pd.

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45. (New) The light-emitting device of claim 39 wherein the metal adhesive layer comprises at least one material selected from a material group consisting of In, Sn, Al au, Pt, Zn, Ge, Ag, Ti, Pb, Pd, Cu, and alloys of these metals.

10 46. (New) The light-emitting device of claim 39 wherein the metal adhesive layer is a metal reflecting adhesive layer.